

The Effects of Green Marketing Mix on Consumer Behavior in Danang City

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Abstract:- As the society develops in an increasingly complex direction, people's awareness of consumption safety is increasing, the study of the impact of green marketing mix on consumer behavior is essential. The study was conducted by surveying 341 people in Danang city, Vietnam to test the impact of green marketing mix on their consumer behavior. Research results have shown that green product is the most powerful factor, followed by green promotion and finally green place. In addition, the model uses demographics as a moderator variable, This research can be used as a reference for marketer to improve their green marketing mix policy to satisfy their customers needs.

Keywords:- Green Marketing Mix, Consumer Behavior, Danang City.

I. INTRODUCTION

The rapid development of Vietnam has brought problems that affect life both positively and negatively. According to a report from the Central Committee Vietnam on food safety, in particular, in 2017, the country recorded 139 food poisoning cases with 3,869 people. With the lack of food safety and food of unknown origin are increasing nowadays, consumers are very interested and prefer safe products for the health of families and relatives. Recognizing and satisfying the needs of such customers, businesses began implementing the green marketing mix strategy to attract customers. Enterprises are not only concerned about user health but also safe for the environment. This strategy is implemented by company through green product policy, green price policy, green place policy and green promotion. For such reasons, the author conducts research on the effects of greenmarketing mix on consumer behavior in Danang city . With the research results, the author wants to help local businesses better understand the impact of green marketing mix on customers, then design right marketing strategy to improve their brand value, trust of customers in the business.

II. LITERATURE REVIEW

A. Consumer behavior and factors influence consumer behavior

Michael Solomon et al (2006) defined that consumer behavior relate the processes when an individual or group selects, purchases or uses products, services, ideas or experiences to meet their needs and wants. The authors Roger A. Kerin, Steven W. Hartley and Williams Rudelius (2017) described consumer behaviors are affected by four major groups of factors: marketing mix (product, price, place and promotion); psychological factors; socialcultural factors; and situational factors. Out of these 4 groups of influencing factors, only one group of impact factors is the policies of the business, so the author will focus on the effects of marketing mix but more specifically green marketing mix on consumer behavior of customers.

B. Marketing mix

Marketing mix was considered the core concepts in modern marketing by Philip Kotler (2011). The company uses marketing tools to create the response they want from the target market. The marketing mix includes everything the company can do to attract and provide value to customers. The elements in marketing mix are collected into 4 groups and are often referred to as 4Ps model: Product, Price , Place, Promotion. Enterprise designs marketing mix programs to achieve organizational goals through satisfaction and value transfer to customers.

C. Green marketing mix

Green products: A company's green product policy is expressed through design, manufacturing, packaging and labeling. According to Ottman (2011), the most important step is the product design process. The design process determines about 75% impacts of the product's health and environment, and in this process, company should use 3R principles The first R is reduction. Reduction means that we should minimize the input materials, parallel that we should reduce the impact on the environment and are safe for health. The second is reuse, it means that we should use materials repeatedly, discourages consumers to use it once and then leaves. Recycle means that products are likely to be reused to produce new products. In addition, the company need to make sure the use

of clean technologies in producing, not only to ensure human health but also to prevent environmental pollution.

Relate to the packaging, businesses can use packaging made of materials that are less polluting, non-toxic and environmentally safe, such as biodegradable packaging, or can use other types of recycle and reused packaging.

Green price: Regarding green pricing, there are two methods. With the first approach, the green products will be priced higher than regular products because they are produced by clean technology. Customers who pay this high price require products to be truly superior to the products they are using, not just environmentally friendly in general. Another method of pricing green products is equal to regular product. At this time, customers will be willing to consume green products instead of loyal to the products they used to.

Green Place: In Green Marketing Mix, the distribution channels need to ensure the two most important functions. Marketing channels of goods are not only has the least negative impact on health and the environment, but also contribute information and propagandize awareness of protecting health and environment to consumers.

Green promotion: transmitting information, stimulating and persuading to target customers in parallel with increasing green products awareness. When communicating avoids unfortunate exaggerations or misunderstandings that can ruin the brand. In addition, the product message sent to customers should be clear, demonstrate the product's safety or environmental protection features, highlight product features and emphasize the ability to satisfy the needs of customers in the best way.

D. Previous researches related to Green Marketing/ green Marketing Mix

Anil Menon et al. (1999) showed that concerns about the surrounding environment are clear evidence of environmental awareness as well as impact on company strategies. With case studies and strong arguments, this article described the principles of environmental-based marketing programs with the content of marketing mix aspects. The important issues in

the imlementation this contetnt also mentioned, from the stand point of company performance and business environment.

In their study, Lendel Kade Narine, Wayne Ganpat, Govind Seepersad (2015) conducted a determination of Willingness To Pay (WTP) and affordability for organic tomatoes. Research shows that consumers are willing to pay higher prices for organic tomato products, In addition, demographic variables such as location, education, income, and awareness also affect their WTP for organic tomatoes.

Pavan (2010) had a definition for green products, when combining the characteristics: original plant; natural ingredients, can be recycled, reused, and biodegraded. A product is considered a green product when it is free of harmful chemicals and does not threaten the environment. Green products are also not tested on animals and are friendly in packaging.

Javad Shahlaee Bagheri (2014) studied Green Marketing and its effect on consumer behavior at a sporting goods store in an eastern province of Azerbaijan. The introduction of the questionnaire or introduction contains demographic information such as age, income level and education level. Research results show that factors affecting customer buying behavior at a Javad Shahlaee Bagheri's sporting goods store include: (1) Environmental awareness; (2) Product features; (3) Green promotion; (4) The price of the product; (5) Demographic characteristics (age, income education, gender and marriage) have a moderate impact on this model.

E. Proposed research model

After considering many studies related to green marketing and marketing mix in the direction of green approach, as well as theories of behaviors, The author finds that green marketing is a topic of interest to many authors. However, few studies mentioned green marketing mix. With the desire to clarify the impact of green marketing mix on consumer behavior in Da Nang city, in the proposed research model, the author chose Customer behavior as a dependent variable, green marketing mix tools were Independent variables include: product, price, place, promotion. In the model, demographics are also considered as a moderator variables.

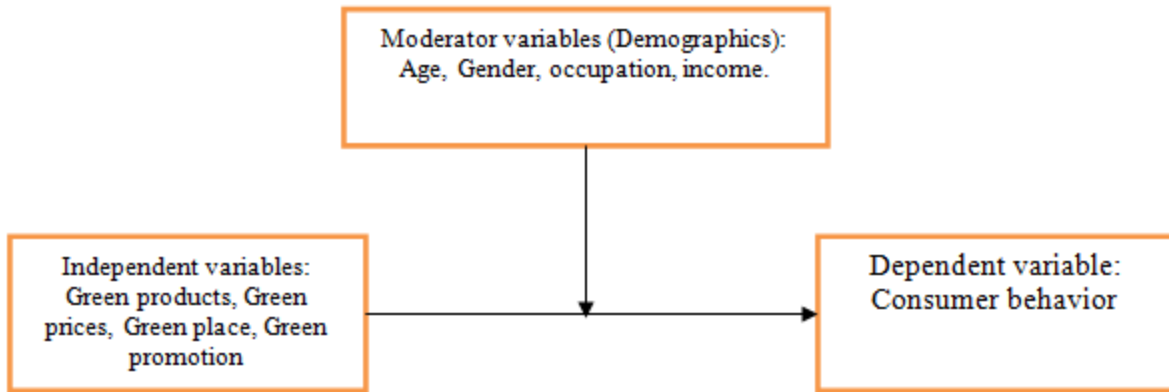


Fig 1:- proposed *research model*
Sources: Developed for the research

III. RESEARCH METHODOLOGY

A. Qualitative research:

In-depth interviews with target groups are the qualitative methods used to identify questions and scales for research, including 6 random consumers in Danang city.

After designing the questionnaire, the author continued to conduct a preliminary interview on the questionnaire content in order to improve the factors and measures to produce a complete questionnaire. Respondents included 20 consumers in the city of Da Nang. After the end of the preliminary interview, based on customer feedback, the author made further adjustments on the two price policy variables and promotion policy to make a complete research questionnaire. The scale used in the research model consists of 4 influential factors (independent variables) and one consumer behavior variable (dependent variable) with total 23 items.

B. Quantitative research

The consumers in Da Nang city were randomly selected to increase the representation of the overall. For the convenience of the study, the researcher approached the respondents via both face-to-face and online questionnaire. Data were collected from the survey through the questionnaire built earlier. The number of surveyed handouts is 400. After

reviewing the validity, number of feedback returned is 341. The data sheet is encrypted and entered directly into SPSS with 42 columns and 341 rows. The rows include data collected from 341 consumers, columns that include general consumer information (4 columns), consumer level of understanding of green products (19 columns), metrics measurement of factors (19 columns). The rows are data gathered from 341 consumer surveys.

IV. RESEARCH RESULTS

A. The relationship between demographic variables and consumption behavior

To find out if there are differences among demographic groups in consumer behavior, the author used sig coefficients in T-test. The research results showed that the Sig coefficient of the income variable has sig = 0.003 < 0.05, while the gender, age, occupation variables have sig greater than 0.05. From this result, it can be concluded that there is a difference in the consumption of green products among income groups. There is no difference in the consumption of green products among gender groups, age groups, and career groups.

B. Cronbach's Alpha reliability test

	Cronbach's Alpha	The number of observed variables
Consumer behavior	.742	4
Green Product	.895	6
Green Price	.914	3
Green Place	.879	4
Green Promotion	.925	6

Table 1: Cronbach's Alpha reliability test
Source: Field Survey, October, 2018

After data is edited, coded and transformed in SPSS, Cronbach's Alpha test was used to test the reliability of 1 dependent variable and 4 independent variables in the research

model, all have the coefficient of satisfactory Cronbach's Alpha index in the range of 0.6 to 0.9 except for the factor in the dependent variable "I would recommend a friend" to the

unsatisfactory Cronbach's Alpha of 0.047, so this variable will be excluded from the model. The model after testing has 4 scales for the independent factor (with 19 items) and 1 dependent variable (3 items).

C. Testing the Factor Loading Coefficient of the Independent Variables

	<i>Observed Variables</i>	<i>Factor Loading</i>
1	GProduct1 - Raw materials have less environmental impact	.672
2	GProduct2 - The product does not contain substances harmful to health	.662
3	GProduct3 – Good design	.629
4	GProduct4 - Clear packaging	.809
5	GProduct5 - The packaging conveys the green message	.747
6	GProduct6- Persistent or reusable packaging	.737
7	GPrice1- Price is higher than regular products	.820
8	GPrice2- Price compatible product quality	.950
9	GPrice3- Price products consistent with the affordability of the customer	.943
10	GPlace1- Distribution partners are aware of the environmental protection	.712
11	GPlace2- Convenient selling points	.502
12	GPlace3- Cooperate with reputable businesses	.787
13	GPlace4- Green products have an extensive online distribution system	.844
14	GPromotion1- clear message	.620
15	GPromotio2- Many sale promotion program encourage consumption of green products	.706
16	GPromotion3- Use diverse media	.744
17	GPromotion4- Promotion activities help to distinguish between green and conventional products	.706
18	GPromotion5- Promotion activites feature product benefits	.740
19	GPromotion6- Sales staff are always ready and enthusiastic advice	.744

Table 2: Factor Loading of EFA method
Source: Field Survey, October, 2018

The numbers in rotated component matrix of the independent variables represent factor weights or factor load factors of each observed variable. In order to carry out meaningful factor discoveries, only measurements with weight > 0.5 will be retained. And no measure below 0.5 is removed. This result

once again confirms the reliability and statistical significance of the research models.

D. Testing the Correlation Coefficient

Variables		Consumer Behavior
X1- GProduct	Pearson Correlation	.687
	Sig. (2-tailed)	.000
X2_GPrice	Pearson Correlation	.295
	Sig. (2-tailed)	.000
X3_GPlace	Pearson Correlation	.601
	Sig. (2-tailed)	.000
X4_GPromotion	Pearson Correlation	.657
	Sig. (2-tailed)	.000

Table 3: Testing results of correlation coefficient
Source: Field Survey, October, 2018

To test the causal relationship between green marketing mix and consumer behavior, the author use the regression analysis technique. In which, consumer behavior is dependent variable, GProduct, GPrice, GPlace, GPromotion are independent variables. The variables used for regression analysis are standardized variables using factor score and mean value according to SPSS results.

From the results of testing the correlation coefficient between the independent and dependent variables in the above table with the Sig coefficient <0.05, it can be concluded that there is a correlation between the variables in Green Marketing Mix (GProduct; Gprice; Gplace; Gpromotion) and consumer behavior.

E. Regression model

Research model testing: The adjusted R Square and R Square coefficients are used to assess the model's suitability, the larger the adjusted R Square is, the higher the model's relevance.

Model	R	R Square	Adjusted R Square
1	.726 ^a	.526	.521
a. Predictors: (Constant), Gpromotion, GPrice, GProduct, Gplace			
b. Dependent Variable: Consumer behavior			

Table 4: Model Summary
Source: Field Survey, October, 2018

Adjusted R Square of 52.6% indicates that the model can explain 52.6% of the variation in consumer behavior related to product factors

Model	Sum of Squares	df	Mean Square	F	Sig.	
1	Regression	66.617	4	16.654	93.110	.000 ^b
	Residual	59.920	335	.179		
	Total	126.537	339			
a. Dependent Variable: Consumer behavior						
b. Predictors: (Constant), Gpromotion, GPrice, GProduct, Gplace						

Table 5: Anova
Source: Field Survey, October, 2018

To test the fit of the overall regression model, we consider the value of F from ANOVA analysis table. With F = 93,110 and

Sig = 0.000 < 0.05, we can conclude that the model is suitable for the data set.

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1 (Constant)	1.185	.167		7.107	.000		
GProduct	.371	.055	.404	6.765	.000	.397	2.519
GPrice	.045	.037	.050	1.237	.217	.858	1.165
GPlace	.104	.052	.121	2.009	.045	.393	2.544
GPromotion	.208	.056	.246	3.718	.000	.322	3.105

a. Dependent Variable: Consumer behavior
Table 6: Coefficient of regression model
Source: Field Survey, October, 2018

Regression Model: According to the regression analysis results in table 6, only 3 of the 4 factors of the model are Products, Place and promotion are factors that affect customer behavior in Da Nang city. Because Sig (GProduct) = 0.000, Sig (GPlace) = 0.045 and Sig (GPromotion) = 0.000 are less than 5% while Sig (GPrice) = 0.217 is greater than 5% should be disqualified.

The standardized coefficients predict the influence level of independent variables (Gproduct, Gprice, Gplace, GPromotion) on consumer behavior of people in Danang city. They can be determined by the following regression equation with standardized coefficients as below:

$$\text{Consumer behavior} = 0.404.GProduct + 0.121.GPlace + 0.246.GPromotion$$

V. CONCLUSION

The model is designed to evaluate the factors affecting customers' behavior of green products with four factors of Green Marketing Mix: green product, green price, green place, and green promotion with demographic variables (age, income, gender, occupation) as moderator variables. After the process of verification, correlation analysis, regression analysis can conclude that the consumer behavior of green products of people in Da Nang city is different between income groups, there is no difference between age groups, gender and occupation. Consumer behavior is influenced by the following factors: (1) green product, (2) green promotion and (3) green place.

Green Product is the most important factor affecting customers' purchasing behavior of green products at the rate of 46.6%. This means that businesses not only focus on designing products that meet the consumer needs of the customers but also have to protect the environment. However this may not be easy and sometimes there is a big cost to the business. The green promotion is the second most important factor affecting the purchase behavior of green products at a rate of 21.8%. This implies that green product policies are good but there is a need for an appropriate promotion policy that can strongly impact consumers' perceptions of green products. Finally, the green place Policy accounts for 12.1%, this is a factor that needs special attention to both creating the availability of products at the point of sale and choosing the distribution channels with less harmful effects on the environment.

RECOMMENDATIONS

Businesses should improve the quality and design of products in accordance with the message of health and environment protection that it brings. To do this, businesses should invest more in their R&D department.

Besides that, firms should concentrate resources for marketing department to develop effective marketing solutions. A clear message needs to be designed to promote an awareness of the importance of green products. At the same time, combining a variety of traditional and modern media to convey effectively the message to the customers. Adhere to the principle of doing what is stated in advertising and media activities.

The last one, companies should cooperate with responsible and reputable partners on issues related to the supply of input resources and distribution of outputs to ensure the safety of human health, friendly to the environment and absolutely committed to their actions.

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